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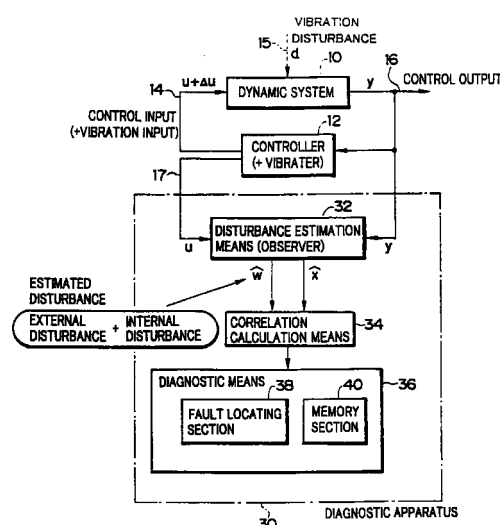
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(54) **Diagnostic apparatus for a dynamic system, braking pressure estimation device, anti-lock brake controller, and braking pressure controller**

(57) An apparatus for diagnosing a fault in a dynamic system includes a controller which controls the dynamic system through use of a control input signal and vibrates the dynamic system through use of a vibration signal irrelevant to the internal state quantity of the dynamic system; an observer for estimating, on the basis of a response output from the vibration dynamic system, total disturbance which is a sum of an internal disturbance vector stemming from a fault in the dynamic system and a vibration disturbance vector occurring in the dynamic system through vibration; a correlation calculation unit which calculates cross-correlation between the thus-estimated total disturbance and the internal state quantity of the dynamic system and separates a component related to the internal disturbance from the total disturbance; and a diagnostic unit for diagnosing a fault in the dynamic system on the basis of the thus-separated component related to the internal disturbance. Since the dynamic system is vibrated, the response output can be increased even when there exists small external disturbance. As a result, a fault or a variation in air pressure in a tire can be highly accurately diag-

nosed.

FIG. 1





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EUROPEAN SEARCH REPORT

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			TECHNICAL FIELDS SEARCHED (Int.Cl.6)
			B60T B60R B60C
The present search report has been drawn up for all claims			
Place of search THE HAGUE		Date of completion of the search 18 February 1999	Examiner Gaillard, A
CATEGORY OF CITED DOCUMENTS X : particularly relevant if taken alone Y : particularly relevant if combined with another document of the same category A : technological background O : non-written disclosure P : intermediate document T : theory or principle underlying the invention E : earlier patent document, but published on, or after the filing date D : document cited in the application L : document cited for other reasons & : member of the same patent family, corresponding document			

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**ANNEX TO THE EUROPEAN SEARCH REPORT
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